AMENDMENTS

In the Claims

Please replace the claims with the following clean version of the entire set of pending claims, in accordance with 37 C.F.R. § 1.121(c)(1)(i). Cancel all previous versions of any pending claim.

A marked up version showing amendments to any claims being changed is provided in one or more accompanying pages separate from this amendment in accordance with 37 C.F.R. § 1.121(c)(1)(ii). Any claim not accompanied by a marked up version has not been changed relative to the immediate prior version, except that marked up versions are not being supplied for any added claim or canceled claim.

39. (Amended) A semiconductor processing method of depositing SiO_2 on a substrate within a low pressure chemical vapor deposition reactor comprising feeding at least one of H_2O and H_2O_2 into the low pressure chemical vapor deposition reactor while feeding an organic silicon precursor, wherein the at least one of H_2O and H_2O_2 is fed into the reactor separately from the organic silicon precursor, comprises at least about 5% by volume of the material fed into the reactor, and under conditions which are effective to reduce formation of undesired reaction intermediates of the organic silicon precursor which form at higher topographical elevations on the substrate than would otherwise occur without the feeding of the at least one of H_2O and H_2O_2 into the reactor under otherwise identical depositing conditions.

40. The semiconductor processing method of claim 39, wherein the at least one of H_2O and H_2O_2 comprises less than about 50% by volume of material injected into the reactor.

41. The semiconductor processing method of claim 40, wherein the at least one of H_2O and H_2O_2 comprises between about 5% to 15% by volume of material injected into the reactor.

Cancel Claim 42 without prejudice.

44. The semiconductor processing method of Claim 39, wherein the organic silicon precursor is selected from the group consisting of: tetraethoxysilane (TEOS), diethylsilane (DES), tetramethylcyclo-tetrasiloxane (TMCTS), fluorotriethoxysilane (FTES), and fluorotrialkoxysilane (FTAS).

45. The semiconductor processing method of Claim 39, wherein the chemical vapor deposition reactor is a hot wall reactor.

46. (Amended) The semiconductor processing method of Claim 39, wherein the chemical vapor deposition reactor is a cold wall reactor.

47. (Amended) A semiconductor processing method of chemical vapor depositing SiO_2 on a substrate comprising:

placing a substrate within a low pressure chemical vapor deposition reactor;

feeding an organic silicon precursor into the low pressure chemical vapor deposition reactor having the substrate positioned therein under conditions effective to decompose the precursor into SiO_2 which deposits on the substrate and into a gaseous oxide of hydrogen; and

feeding an additional quantity of the gaseous oxide of hydrogen into the low pressure chemical vapor deposition reactor while feeding the organic silicon precursor into the reactor, the additional quantity comprising at least about 5% by volume of the material fed into the reactor, wherein the organic silicon precursor and the additional quantity of the gaseous oxide of hydrogen are fed into the reactor from separate feed streams and under conditions which are effective to reduce formation of undesired reaction intermediates of the organic silicon precursor which form at higher topographical elevations on the substrate than would otherwise occur without the feeding of the at least one of H_2O and H_2O_2 into the reactor under otherwise identical depositing conditions.

48. (Amended) A semiconductor processing method of chemical vapor depositing SiO_2 on a substrate comprising:

placing a substrate within a hot-wall, low-pressure chemical vapor deposition reactor;

feeding an organic silicon precursor into the hot wall, low-pressure chemical vapor deposition reactor having the substrate positioned therein;

feeding an additional quantity of the gaseous oxide of hydrogen into the hot wall, low pressure chemical vapor deposition reactor while feeding the organic silicon precursor into the reactor, wherein the organic silicon precursor and the additional quantity of the gaseous oxide of hydrogen are fed into the reactor from separate feed streams, the additional quantity comprising at least about 5% by volume of the material fed into the reactor; and

providing conditions effective to decompose the precursor into SiO_2 at a theoretical decomposition rate and effective to cause the additional quantity of gaseous oxide of hydrogen to reduce the theoretical decomposition rate to a lower actual decomposition rate, the reducing a function of at least some of the additional quantity of gaseous oxide of hydrogen reducing formation of undesired reaction intermediates of the organic silicon precursor which form at higher topographical elevations on the substrate than would otherwise occur without the feeding of the at least one of H_2O and H_2O_2 into the hot-wall, low-pressure chemical vapor deposition reactor under otherwise identical depositing conditions.

49. The semiconductor processing method of Claim 47, wherein the organic silicon precursor is selected from the group consisting of: tetraethoxysilane (TEOS), diethylsilane (DES), tetramethylcyclotetrasiloxane (TMCTS), fluorotriethoxysilane (FTES), and fluorotrialkoxysilane (FTAS).

50. The semiconductor processing method of Claim 47, wherein the chemical vapor deposition reactor is a hot wall reactor.

51. The semiconductor processing method of Claim 47, wherein the chemical vapor deposition reactor is a cold wall reactor.

52. The semiconductor processing method of Claim 48, wherein the organic silicon precursor is selected from the group consisting of: tetraethoxysilane (TEOS), diethylsilane (DES), tetramethylcyclotetrasiloxane (TMCTS), fluorotriethoxysilane (FTES), and fluorotrialkoxysilane (FTAS).